## **ATTACHMENT A**

# SMAQMD Rule 406 Compliance Calculations for Flares and Engines

### Calculation of SO<sub>2</sub> and PM Emission Concentrations From Flares and IC Engines

### **Flares**

Flare No. 1

### Assumptions for calculations:

Landfill Gas (LFG) F-factor = 9,743 dscf EG (exhaust gas)/MMBTU (source test data)

LFG Heat Content = 426 BTU/scf LFG (source test data)
Outlet Oxygen = 13.2% (source test data)
Outlet Carbon Dioxide = 6.8% (source test data)
SO2 Emission Factor = 42.4 lb SO2/MMscf LFG
PM Emission Factor = 7.35 lb PM10/MMscf LFG

Molecular Weight of SO2 = 64 grams/mole

Standard Molar Volume = 0.8493 dscf/mol (at 68 degrees F and 1 atm)

### PM10 concentration (combustion contaminants):

 Flare PM10 mass emission rate (grains/min) Flare volumetric Exhaust Gas flow rate (dscf EG/min)

- = (7.35 lb PM10/MMscf LFG) (7000 grains/lb) (5000 scf LFG/min) (5000 scf LFG/min) (426 BTU/scf LFG) (9743 dscf EG/MMBTU)
- = 257 grains PM10/min 20753 dscf EG/min at 0% O2 based on definition of Fd Factor
- = 257 grains PM10/min 56330 dscf EG/min at 13.2% O2 actual test condition
- = 0.0046 grains PM10/dscf EG at 6.8% CO2 actual test condition
- = 0.008 grains PM10/dscf EG at 12% CO2

### SO2 Concentration (%SO2 by volume):

- = Flare volumetric SO2 emission rate (scf SO2/min) Flare volumetric combustion gas emission rate (dscf EG/min)
- = (42.4 lb SO2/MMscf LFG) (453.6 grams/lb) (5000 scf LFG/min) (0.8493 ft3/g-mole)(1 g-mole/64 grams) (5000 scf LFG/min) (426 BTU/scf LFG) (9743 dscf EG/MMBTU)
- = 1.276 scf SO2/min 20753 dscf EG/min at 0% O2 based on definition of Fd Factor
- = 1.276 scf SO2/min 56330 dscf EG/min at 13.2% O2 actual test condition
- = 0.002% SO2 by volume

### Flare No. 2

### Assumptions for calculations:

Landfill Gas (LFG) F-factor = 9,743 ft3 EG (exhaust gas)/MMBTU (source test data)

LFG Heat Content = 426 BTU/ft3 LFG (source test data)

Outlet Oxygen = 13.2% (source test data)

Outlet Carbon Dioxide = 6.8% (source test data)

SO2 Emission Factor = 20 × (34 % 1/25 (20.1% c))

= 20 x (34 lb H2S/32 lb S)

= 21.25 lb SO2/MMft3 LFG (measured as S)

PM Emission Factor = 7.35 lb PM10/MMft3 LFG

Molecular Weight of SO2 = 64 grams/mole

Standard Molar Volume = 0.8493 dscf/mol (at 68 degrees F and 1 atm)

### **PM10 concentration** (combustion contaminants):

= Flare PM10 mass emission rate (grains/min) Flare volumetric Exhaust Gas flow rate (ft3 EG/min)

- = (7.35 lb PM10/MMft3 LFG) (7000 grains/lb) (4000 ft3 LFG/min) (4000 ft3 LFG/min) (426 BTU/ft3 LFG) (9743 ft3 EG/MMBTU)
- = <u>257 grains</u> PM10/min 20753 ft3 EG/min at 0% O2 based on definition of Fd Factor
- = 257 grains PM10/min 56330 ft3 EG/min at 13.2% O2 actual test condition
- = 0.0046 grains PM10/ft3 EG at 6.8% CO2 actual test condition
- = 0.008 grains PM10/ft3 EG at 12% CO2

### SO2 Concentration (%SO2 by volume):

- = Flare volumetric SO2 emission rate (ft3 SO2/min) Flare volumetric combustion gas emission rate (ft3 EG/min)
- = (21.25 lb SO2/MMft3 LFG) (453.6 grams/lb) (4000 ft3 LFG/min) (0.8493 ft3/g-mole)(1 g-mole/64 g) (4000 ft3 LFG/min) (426 BTU/ft3 LFG) (9743 ft3 EG/MMBTU)
- = 0.51 ft3 SO2/min 16602 ft3 EG/min at 0% O2 based on definition of Fd Factor
- = 0.51 ft3 SO2/min 45058 ft3 EG/min at 13.2% O2 actual test condition
- = 0.001% SO2 by volume

### Calculation of SO<sub>2</sub> and PM Emission Concentrations from Flares and Engines (continued)

### LFG IC Engines

### Assumptions for calculations:

Landfill gas F-factor = 9,400 dscf/0.547mmBTU (source test data)
Molecular Weight of SO2 = 64 grams/mol
Standard Molar Volume = 0.8493 dscf/mol (at 68 degrees F and 1 atm)
SO2 Emission Factor = 0.29 grams/hp-hr
PM Emission Factor = 0.113 grams/hp-hr
Engine Efficiency = 35% (assumed)
Outlet Carbon Dioxide = 12% (assumed)

### PM10 concentration (combustion contaminants):

- = IC Engine PM10 mass emission rate (grains/hr) IC Engine volumetric combustion gas flow rate (ft3/hour)
- = (0.113 grams PM10/hp hr) (15.43 grains/gram) (4230hp) (4230 hp) (2546 BTU/hp hr) (1 BTU input/0.35 BTU output) (9400 E-6 ft3/0.547 BTU)
- = 7375 grains/hr 528,775 ft3/hr
- = 0.014 grains/ft3 at 12% CO2

### SO2 Concentration (%SO2 by volume):

- = IC Engine volumetric SO2 emission rate (ft3/hp hr) IC Engine volumetric combustion gas emission rate (ft3/hp hr)
- = (0.29 grams SO2/hp-hr) (0.8493 ft3/mole) (1 mole/64 grams) (2546 BTU/hp hr) (1 BTU input/0.35 BTU output) (9400 E-6 ft3/0.547 BTU)
- = 0.00385 ft3/hp hr125 ft3/hp hr
- = 0.003% SO2 by volume

### **Diesel IC Engines**

Compliance for the four diesel engines will be shown by demonstrating compliance with the engine with the highest PM10 emission factor (street sweeper no. 2 auxiliary engine (SS2)).

Diesel fuel F-factor = 9,190 dscf/MMBTU at 0% O2

Diesel fuel F-factor = 9,190 dscf/MMBTU at 0% O2

Molecular Weight of SO2 = 64 grams/mole

Standard Molar Volume = 0.8493 dscf/mol (at 68 degrees F and 1 atm)

SO2 Emission Factor = 0.05 grams/hp-hour

PM Emission Factor = 0.22 grams/hp-hour

Engine Efficiency = 35% (assumed)

Outlet Carbon Dioxide = 12% (assumed)

### PM10 concentration (combustion contaminants):

= IC engine PM10 mass emission rate (grains/hour) IC engine volumetric combustion gas flow rate (ft3/hour)

= (0.22 grams PM10/hp hour) (15.43 grains/gram) (99 hp) (99 hp)(2546 BTU/hp hour) (1 BTU input/0.35 BTU output) (9190 E-6 ft3/BTU)

= 336 grains/hour

6618 ft3/hour at 0% O2 by definition of F factor

= 336 grains/hour

23443 ft3/hour at 15% O2 actual operating condition

= 0.01 grains/ft3 at 12% CO2

### SO2 Concentration (% SO2 by volume):

= IC engine volumetric SO2 emission rate (ft3/hp hour) IC engine volumetric combustion gas emission rate (ft3/hp hour)

= (0.005 grams SO2/hp-hour) (0.8493 ft3/mole) (1 mole/64 grams) (99 hp) (99 hp) (2546 BTU/hp hour) (1 BTU input/0.35 BTU output) (9190 E-6 ft3/BTU)

= 0.0066 ft3/hour

6618 ft3/hour at 0% O2 by definition of F factor

= 0.216 ft3/hour

23443 ft3/hour at 15% O2 actual operating condition

= 0.00002% SO2 by volume

## **ATTACHMENT B**

# SMAQMD RULES THAT ARE "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" FOR KIEFER LANDFILL

Is the Rule an "Applicable Federally Enforceable Requirement"?  No - it is not a SIP approved rule.  No - it is not a SIP approved rule.  No - it is not a SIP approved rule.  Yes - rule became effective 08-19-2011. Projects processed after the applicable date shall be evaluated under this rule.  Yes - related conditions are included in the permit.  Yes - related conditions are included in the approved rule it is applicable because it is part of the approved Title V Permit Program.)  No - it is not a SIP approved rule.	Rule Title  209 Limiting Potential to Emit  210 Synthetic Minor Source Status  211 MACT at Major Source Source Air  Pollutants  214 Federal New Source Review  10-28-2010 Adoption  301 Stationary Source Permit Fees  303 Agricultural Burning Permit Fees	302 214 214 Bule No. 302 303 303	Rule is SIP Rule is SIP Approved Approved
No - it is not a SIP approved rule.	Plan Fees	304	
Yes - related conditions are included in the permit. (*Although this is not a SIP approved rule it is applicable because it is part of the approved Title V Permit Program.)	Stationary Source Permit Fees		* •
Yes – rule became effective 08-19-2011. Projects processed after the applicable date shall be evaluated under this rule.	Federal New Source I 10-28-2010 Adoption		
No - it is not a SIP approved rule.	MACT at Major Sources of Hazardous Air Pollutants		
No - it is not a SIP approved rule.	Synthetic Minor Source Status	210	
Is the Rule an "Applicable Federally Enforceable Requirement"?	Rufe Title		918 ai aluA

Is the Rule an "Applicable Federally Enforceable Requirement"?	No - it is not a SIP approved rule.	No - it is not a SIP approved rule.	Yes - no related conditions are included in the permit.	Yes - related conditions are included in the permit.	No - it is not a SIP approved rule.	Yes - related conditions are included in the permit.	Yes - related conditions are included in the permit.	Yes - related conditions are included in the permit.
Rule is SIP Applicable Rule is SIP Approved Rule No.	305 Environmental Document Preparation and Processing Fees	306 Air Toxics Fees	<ul><li>307 Clean Air Act Fees</li><li>09/26/2002 adoption</li></ul>	<ul><li>401 Ringelmann Chart 04/05/1983 adoption</li></ul>	• 402 Nuisance	<ul><li>403 Fugitive Dust 11/29/1983 adoption</li></ul>	<ul><li>404 Particulate Matter</li><li>11/20/1984 adoption</li></ul>	<ul><li>405 Dust and Condensed Fumes 11/29/1983 adoption</li></ul>

Is the Rule an "Applicable Federally Enforceable Requirement"?	Yes - related conditions are included in the permit.	Yes - no related conditions are included in the permit.	No - the source does not operate an incinerator.	No - the source does not operate orchard heaters.	No - the source does not operate equipment for the reduction of animal matter.	No - the source does not operate a boiler subject to this rule.	Yes - related conditions are included in the permit.	No - the source does not operate a gas turbine.
o Sule Title	406 Specific Contaminants 11/29/1983 adoption	407 Open Burning 11/29/1983 adoption	408 Incinerator Burning 11/29/1983 adoption	409 Orchard Heaters 11/29/1983 adoption	410 Reduction of Animal Matter 11/29/1983 adoption	411 Boiler NOx 08/23/2007 adoption	412 Stationary IC Engines at Major Stationary Sources of NOx 06/01/1995 adoption	413 Stationary Gas Turbines 03/24/2005 version
Approved	•	•	•	•	•	•	•	•
Rule is Applicable Rule is SIP	•	•						

Rule is Applicable ql8 si elu Rule bevorqqA	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
•	414	Natural Gas Fired Water Heaters 08/01/1996 adoption 03/25/2010 rule version is not SIP approved	No - the source does not operate gas fired water heaters.
•	420	Sulfur Content of Fuels 11/29/1983 adoption	Yes - related conditions are included in the permit.
•	441	Organic Solvents 11/29/1983 adoption	Yes - no related conditions are included in the permit because of limited applicability.
•	442	Architectural Coatings 09/05/1996 adoption 05/24/2001 rule version is not SIP approved	<b>Yes</b> - related conditions are included in the permit.
•	443	Leaks from Synthetic Organic Chemical and Polymer Manufacturing 09/05/1996 adoption	No - the source does not operate synthetic organic chemical or polymer manufacturing equipment.
•	444	Petroleum Solvent Dry Cleaning 11/29/1983 adoption	No - the source does not operate petroleum solvent dry cleaning equipment.
•	446	Storage of Petroleum Products 11/16/1993 adoption	No - the source only stores petroleum products.
•	447	Organic Liquid Loading	No - the source does not operate organic liquid loading

Is the Rule an "Applicable Federally Enforceable Requirement"?	equipment.	Yes - related conditions are included in the permit.	Yes - related conditions are included in the permit.	No - the source does not operate a graphic arts process as defined in the rule.	Yes - no related conditions are included in the permit because of limited applicability.	No - the source does not operate a can coating process.	No - the source does not manufacture or apply cutback or emulsified asphalt paving materials.
Rule is SIP Rule is SIP Approved Approved Rule No.	04/02/1998 adoption	<ul> <li>448 Gasoline Transfer into Stationary Storage Containers 02/02/1995 adoption</li> </ul>	<ul> <li>449 Transfer of Gasoline into Vehicle Fuel Tanks 09/26/2002 adoption</li> </ul>	<ul><li>450 Graphic Arts Operations 10/23/2008 adoption</li></ul>	<ul> <li>451 Surface Coating of Miscellaneous Metal Parts and Products         <ul> <li>11/29/1983 adoption</li> <li>10/28/2010 rule version is not SIP approved</li> </ul> </li> </ul>	<ul><li>452 Can Coating</li><li>09/25/2008 adoption</li></ul>	<ul> <li>453 Cutback and Emulsified Asphalt Paving Materials 11/29/1983 adoption</li> </ul>

is the Rule an "Applicable Federally Enforceable Requirement"?	- the source does not operate degreasers subject to this rule.	<ul> <li>the source does not manufacture pharmaceuticals.</li> </ul>	- the source does not coat aerospace parts.	- the source does not produce bread products.	- the source does not refinish vehicles.	- it is not a SIP approved rule.	- the source does not coat wood products.
is t Rec	No -	N O	N O	N o	No -	No -	No -
Rule Title	Degreasing Operations 09/25/2008 adoption	Pharmaceuticals Manufacturing 11/29/1983 adoption	Aerospace Coating Operations 09/05/1996 adoption	Large Commercial Bread Bakeries 09/05/1996 adoption	Automotive, Truck and Heavy Equipment Refinishing Operations 10/02/1997 adoption	Adhesives and Sealants	Wood Products Coatings 09/25/2008 adoption
Rule No.	454	455	456	458	459	460	463
Rule is SIP Approved	•	•	•	•	•		•
Rule is Applicable						•	

ls the Rule an "Applicable Federally Enforceable Requirement"?	No - the source does not manufacture organic chemicals.	<b>No</b> - the source does not include any polyester resin operations.	Yes - related conditions are included in the permit.	No - it is not a SIP approved rule.	No - the source does not conduct agricultural burning.	No - it is not a SIP approved rule.	No - it is not a SIP approved rule.	No - no related conditions are included in the permit because of limited applicability.	No - it is not a SIP approved rule. Note: there is an equivalent federal regulation.
Rule is SIP Approved Rule No. Rule Title	<ul> <li>464 Organic Chemical Manufacturing Operations 09/22/2008 adoption</li> </ul>	<ul><li>465 Polyester Resin Operations 09/25/08 adoption</li></ul>	<ul><li>466 Solvent Cleaning 10/28/2010 adoption</li></ul>	485 Municipal Landfill Gas	• 501 Agricultural Burning 11/29/1983 adoption	601 Procedure before the Hearing Board	602 Breakdown Conditions: Emergency Variance	<ul><li>701 Emergency Episode Plan 05/27/1999 adoption</li></ul>	801 New Source Performance Standards
Rule is Applicable						•	•		•

# "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" **SMAQMD RULES THAT ARE** FOR KIEFER LANDFILL

ls the Rule an "Applicable Federally Enforceable Requirement"?	No - it is not a SIP approved rule. Note: there is an equivalent federal regulation.	No - it is not a SIP approved rule. Note: there is an equivalent federal regulation.	No - it is not a SIP approved rule. Note: there is an equivalent federal regulation.	No - it is not a SIP approved rule.  Note: there are equivalent federal regulations for some of the listed ATCMs.	No - it is not a SIP approved rule.	No - it is not a SIP approved rule.	No - it is not a SIP approved rule.
<u>~</u> ₽	Z	Z	Z	Z	Z	Z	Z
Rule Title	General Requirements	Asbestos	903 Mercury	Airborne Toxic Control Measures	1002 Fleet Inventory	1003 Reduced-Emission Fleet Vehicles/Alternative Fuels	1005 Mobile Source Emission Reduction Credits/Banking
Rule No.	901	902	903	904	1002	1003	1005
Rule is Applicable Rule is SIP Approved							

# "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS" **SMAQMD RULES THAT ARE FOR KIEFER LANDFILL**

Rule is Rule is SIP Approved Rule No.

Is the Rule an "Applicable Federally Enforceable Requirement"?

1006 Transportation Conformity

Rule Title

No - it is not a SIP approved rule.

# ATTACHMENT C SMAQMD Rule 201 Permits To Operate

SACRAMENTO METROPOLITAN



## PERMIT TO OPERATE

KIEFER LANDFILL
DEPARTMENT OF WASTE MANAGEMENT AND RECYCLING
COUNTY OF SACRAMENTO
9850 GOETHE RD
SACRAMENTO. CA 95827

Equipment Location: 12701 Kiefer Boulevard and Grantline Road, Sacramento

PERMIT NO.	EQUIPMENT DESCRIPTION
17821	LANDFILL AND LANDFILL GAS COLLECTION SYSTEM CONSISTING OF:
	1. LANDFILL AREA DESIGNATED AS MODULE M1 AND MODULE M2.
	2. PERIMETER WELLS.
	3. INTERIOR WELLS
	<ol> <li>PIPING TO COLLECT LANDFILL GAS FROM PERIMETER AND INTERIOR WELLS AND DIRECT IT TO THE LFG FLARE (P/O 17728) OR LANDFILL GAS TREATMENT SYSTEM.</li> </ol>
	5. TWO LANDFILL GAS BLOWERS, 125 HP EACH.

### SUBJECT TO THE FOLLOWING CONDITIONS:

### **GENERAL REQUIREMENTS**

- 1. The equipment shall be properly maintained.
- 2. The Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials, shall be permitted:
  - A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this Permit to Operate, and
  - B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Permit to Operate, and
  - C. To inspect any equipment, operation or method required in this Permit to Operate, and
  - D. To sample emissions from the source or require samples to be taken.

DATE ISSUED:

10-26-2004

LARRY GREENE

DATE REVISED:

05-09-2005

AIR POLLUTION CONTROL OFFICER

DATE EXPIRES:

01-25-2006 (UNLESS RENEWED)

BY: Buce Pipon
PERMIT NO.: 17821 (Rev 01)

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**REVOCABLE AND NON-TRANSFERABLE** 

- 3. This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the rules and regulations of the SMAQMD.
- 4. A legible copy of this Permit to Operate shall be maintained on the premises with the equipment.

### **EMISSION LIMIT REQUIREMENTS**

 The landfill gas collection system shall operate such that the methane concentration is less than 500 ppmv above background at the surface of the landfill.
 [40 CFR 60.753(d)]

### **EQUIPMENT OPERATION REQUIREMENTS**

- 6. The maximum design capacity of the Kiefer Landfill shall not exceed 117.4 million cubic yards. [SMAQMD Permit to Operate No. 17821]
- 7. The landfill gas collection system shall be designed to handle the maximum expected gas flow rate from that portion of the landfill that warrants control over the intended use period of the landfill gas control system.

[40 CFR 60.752(b)(2)(ii)(A)(1)]

8. Landfill gas shall be collected from each area, cell or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active or 2 years or more if closed or at final grade.

[40 CFR 60.753(a)]

- Landfill gas shall be collected at a sufficient extraction rate.
   [40 CFR 60.752(b)(2)(ii)(A)(3)]
- 10. The landfill gas collection system shall be designed to minimize off-site migration of subsurface landfill gas. [40 CFR 60.752(b)(2)(ii)(A)(4)]
- 11. The landfill gas collection system shall operate such that all collected gases are vented to the flare or landfill gas treatment system. In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour.

[40 CFR 60.753(e)]

12. A sampling port and a temperature measuring device or an access port for temperature measurements shall be installed at each landfill gas wellhead.

[40 CFR 60.756(a)]

- 13. The landfill gas collection system shall operate such that each landfill gas wellhead exhibits negative pressure except under the following conditions:
  - A. A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire.
  - B. Use of a geomembrane or synthetic cover.
  - C. A decommissioned well.

[40 CFR 60.753(b)]

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- 14. A. Except as provided in Condition No. 14.B., the landfill gas collection system shall operate such that each interior landfill gas wellhead, achieves the following:
  - i. A landfill gas temperature less than 55°C and
  - ii. Either a nitrogen level less than 20 percent or an oxygen level less than 5 percent.
  - B. The nitrogen and oxygen concentration limits shall not apply to those wells listed in Attachment A provided that the oxygen concentration in the landfill gas at the main header does not exceed 5% O2 by volume (dry basis) and the methane concentration in the landfill gas at the main header is not less than 35% methane by volume (dry basis).
  - C. The owner or operator may establish a higher operating temperature, nitrogen or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

[40 CFR 60.753(c)]

### MONITORING AND CORRECTIVE ACTION REQUIREMENTS

- 15. A device shall be installed that records flow to or bypass of the flare and landfill gas treatment system. The owner or operator shall either:
  - A. Install, calibrate and maintain a landfill gas flow rate measuring device that shall record the flow to the flare and landfill gas treatment system at least every 15 minutes; or
  - B. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. [40 CFR 60.756(b)(2)]
- 16. If applicable, a visual inspection of the seal or closure mechanism on the landfill gas bypass valve for the flare or landfill gas treatment system shall be conducted at least once every month to ensure that the valve is maintained in the closed position and that the landfill gas flow is not diverted through the bypass line.

  [40 CFR 60.756(b)(2)(ii)]
- 17. Gauge pressure shall be measured monthly in the landfill gas collection header at each individual wellhead.
  - A. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under Condition No. 13. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure.
  - B. Any attempted corrective measure shall not cause exceedances of other operational or performance standards.

### [40 CFR 60.756(a)(1)]

- 18. A. Temperature and either the nitrogen concentration (%) or the oxygen concentration (%) shall be measured monthly for each interior well.
  - i. The nitrogen level shall be determined using U.S. EPA Method 3C unless an alternative method is established as allowed by 40 CFR 60.752(b)(2)(i).
  - ii The oxygen level shall be determined using U.S. EPA Method 3A or 3C unless an alternative method is established as allowed by 40 CFR 60.752(b)(2)(i).
  - iii. If a well exceeds the operating parameters stated in Condition No. 14, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance.

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iv. Any attempted corrective measure shall not cause exceedances of other operation or performance standards.

[40 CFR 60.753(c)(1), 40 CFR 60.753(c)(2), 40 CFR 60.755(a)(5), 40 CFR 60.756(a)(2), 40 CFR 60.756(a)(3)]

B. Oxygen concentration (%) and methane concentration (%) shall be measured monthly at the landfill gas main header.

[SMAQMD Permit to Operate No. 17821]

- 19. Surface concentrations of methane shall be measured quarterly around the perimeter of the collection area, along a pattern that traverses the landfill at 30 meter intervals (or a site specific established spacing) and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.
  - A. Each area shall be monitored using an organic vapor analyzer, flame ionization detector or other portable monitor.
  - B. The organic vapor analyzer, flame ionization detector or other portable monitor shall meet the following specifications:
    - i. The portable analyzer shall meet the instrument specifications provided in Section 3 of U.S. EPA Method 21, except that "methane" shall replace all references to VOC.
    - ii. The calibration gas shall be methane, diluted to a nominal concentration of 500 ppmv in air.
    - iii. To meet the performance evaluation requirements in Section 3.1.3 of U.S. EPA Method 21, the instrument evaluation procedures of Section 4.4 of U.S. EPA Method 21 shall be used.
    - iv. The calibration procedures provided in Section 4.2 of U.S. EPA Method 21 shall be followed immediately before commencing a surface monitoring survey.
  - C. The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.
  - D. Surface emission monitoring shall be performed in accordance with Section 4.3.1 of U.S. EPA Method 21, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.
  - E. Any reading of 500 ppmv or more of methane above background at any location shall be recorded as a monitored exceedance and the following actions shall be taken. As long as the specified actions listed in subsections i. through v. below are taken, the exceedance is not a violation of Condition No. 5.
    - i. The location of each monitored exceedance shall be marked and the location recorded.
    - ii. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance.
    - iii. If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the remonitoring shows a third exceedance for the same location, the action specified in subsection v. below shall be taken, and no further monitoring of that location is required until the action specified in subsection v. below has been taken.
    - iv. Any location that initially showed an exceedance but has a methane concentration less than 500 ppmv methane above background at the 10-day re-monitoring specified in subsection ii. or iii. above shall be re-monitored 1 month from the initial exceedance. If the 1-month remonitoring shows a concentration less than 500 ppmv methane above background, no further monitoring of that

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- location is required until the next quarterly monitoring period. If the 1-month remonitoring shows an exceedance, the actions specified in subsection iii. above or v. below shall be taken.
- v. For any location where monitored methane concentration equals or exceeds 500 ppmv above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Air Pollution Control Officer for approval.

[40 CFR 60.753(d), 40 CFR 60.755(c)]

20. A program shall be implemented to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

[40 CFR 60.755(c)(5)]

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### RECORDKEEPING AND REPORTING REQUIREMENTS

21. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the Air Pollution Control Officer upon request. Monthly and quarterly records shall be made available within 30 days of the end of the month and quarter respectively.

Frequency	Information to be recorded
At all times	A. The design capacity report which is the basis for this facility being subject to the provisions of 40 CFR 60.752(b), the current amount of solid waste in-place and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.  [40 CFR 60.758(a)]
	B. The maximum expected gas generation flow rate as calculated using the methodology in 40 CFR 60.755(a)(1). [40 CFR 60.758(b)(1)(i)]
	C. The density of wells, horizontal collectors, surface collectors or other gas extraction devices determined using the procedures in 40 CFR 60.759(a)(1). [40 CFR 60.758(b)(1)(ii)]
	<ul> <li>D. Continuous record of either:         <ol> <li>The indication of landfill gas flow to the flare or landfill gas treatment system or the indication of landfill gas bypass flow, or</li> <li>Monthly inspections of car-seals or lock-and-key configurations used to seal landfill gas bypass lines.</li> </ol> </li> <li>[40 CFR 60.758(c)(2)]</li> </ul>
	<ul> <li>E. Record of all collection system exceedances of the following operational standards at each individual well: <ol> <li>Landfill gas collection wellhead gauge pressure - Condition No. 13.</li> <li>Landfill gas temperature - Condition No. 14.A.</li> <li>Either nitrogen or oxygen concentration - Condition No. 14.A.</li> <li>Surface methane concentrations - Condition No. 5.</li> </ol> </li> <li>Where there is an exceedance, the reading in the subsequent month shall be recorded and whether or not the second reading is an exceedance and the location of the exceedance. <ol> <li>[40 CFR 60.758(e)]</li> </ol> </li> </ul>

PERMIT NO.: 17821 (Rev 01)

Frequency	Information to be recorded
	<ul> <li>F. Record of all collection system exceedances of the following operational standards at the landfill gas main header: <ol> <li>Landfill gas oxygen concentration - Condition No. 14.B.</li> <li>Landfill gas methane concentration - Condition No. 14.B.</li> </ol> </li> <li>[SMAQMD Permit to Operate No. 17821]</li> <li>G. Plot map showing each existing and planned landfill gas collector in the system and providing a unique identification location label for each collector. <ol> <li>CFR 60.758(d)]</li> </ol> </li> <li>H. Record of the installation date and location of all newly installed landfill gas collectors. <ol> <li>CFR 60.758(d)(1)]</li> </ol> </li> <li>I. If applicable, documentation of the nature, date of deposition, amount and location of asbestos-containing or non-degradable waste excluded from collection as well as any non-productive areas excluded from collection. <ol> <li>CFR 60.758(d)(2)]</li> </ol> </li> </ul>
Monthly .	<ul> <li>J. Record of the following equipment operating parameters specified to be monitored at each individual well: <ol> <li>Landfill gas well head gauge pressure - Condition No. 17.</li> <li>Landfill gas temperature - Condition No. 18.A.</li> <li>Either nitrogen or oxygen level - Condition No. 18.A.</li> </ol> </li> <li>K. Record of monitoring for cover integrity and any cover repairs implemented.  [SMAQMD Permit to Operate No. 17821] <ol> <li>Record of the following equipment operating parameters specified to be monitored at the landfill gas main header: <ol> <li>Landfill gas oxygen concentration - Condition No. 18.B.</li> </ol> </li> <li>[SMAQMD Permit to Operate No. 17821]</li> </ol></li></ul>
Quarterly	M. Record of the following: i. Surface methane concentrations - Condition No. 19.  [40 CFR 60.758(c)]

22. A written report shall be submitted to the Air Pollution Control Officer by the date indicated and shall contain the following information.

Frequency	Information to be submitted
Report by:  (1) July 30 of each year for the six month period: Jan. – June  and	<ul> <li>A. Value and length of time for exceedance of the following parameters at each individual well: <ol> <li>Landfill gas well head gauge pressure - Condition No. 13</li> <li>Identify instances when positive pressure occurs in efforts to avoid a fire.</li> <li>Landfill gas temperature - Condition No. 14(A).</li> <li>Either nitrogen or oxygen level - Condition No. 14(A).</li> <li>Surface methane concentrations - Condition No. 5.</li> </ol> </li> <li>[40 CFR 60.757(f)(1)]</li> </ul>

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Frequency	Information to be submitted
(2) January 30 of each year for the six month period: July - Dec.  [40 CFR 63.1980(a)]	B. Value and length of time for exceedance of the following parameters at the landfill gas main header:  i. Landfill gas oxygen concentration - Condition No. 14.B.  ii. Landfill gas methane concentration - Condition No. 14.B.  [SMAQMD Permit to Operate No. 17821]  C. If applicable, description and duration of all periods when the landfill gas stream is diverted from the flare or landfill gas treatment system through a landfill gas bypass line or the indication of bypass flow as specified to be monitored in Condition No. 15.  [40 CFR 60.757(f)(2)]  D. If applicable, the results of visual inspection of the seal or closure mechanism on the landfill gas valve bypassing the flare or landfill gas treatment system, as specified to be monitored in Condition No. 16, to ensure that the valve is maintained in the closed position and that the landfill gas flow is not diverted through the bypass line.  [40 CFR 60.757(f)(2)]  E. All periods when the collection system was not operating in excess of 5 days.  [40 CFR 60.757(f)(4)]  F. Description, date and duration of all periods when inadequate landfill gas control existed for a period of at least one hour.  (Inadequate landfill gas control is defined as when the amount of available landfill gas combustion capacity provided by the combination of the flare and landfill gas treatment system is less than the landfill gas collection rate.)  G. The location of each exceedance of the 500 ppmv methane concentration limit pursuant to Condition No. 15 and the concentration recorded at each location for which an exceedance was recorded in the previous month.  [40 CFR 60.757(f)(5)]  H. The date of installation and the location of each well or collection system expansion added pursuant to Condition Nos. 18.C and 19.E.v.  [40 CFR 60.757(f)(6)]
Within 30 days of the landfill closing and waste acceptance cessation	
30 days prior to the removal or cessation of control equipment operation	<ul> <li>L. Each owner or operator of a controlled landfill shall submit an equipment removal report 30 days prior to removal or cessation of operation of the control equipment.</li> <li>M. The equipment removal report shall contain all of the following items: <ol> <li>A copy of the closure report submitted in accordance with 40 CFR 60.757(d).</li> <li>A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired.</li> <li>Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.</li> </ol> </li></ul>

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Frequency	Information to be submitted
	N. The Air Pollution Control Officer may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.752(b)(2)(v) have been met. [40CFR60.757(e)]

Your application for this air quality Permit to Operate was evaluated for compliance with Sacramento Metropolitan Air Quality Management District (SMAQMD), state and federal air quality rules. The following listed SMAQMD rules are those that are most applicable to the operation of your equipment. Other rules may also be applicable.

SMAQMD Rule No.	Rule Title
201	General Permit Requirements
202	New Source Review
402	Nuisance
NSPS	40 CFR 60 Subpart WWW New Source Performance Standard: Municipal Solid Waste Landfills
NESHAP	40 CFR 63 Subpart AAAA National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

In addition, the conditions on this Permit to Operate may reflect some, but not all, requirements of these rules. There may be other conditions that are applicable to the operation of your equipment. Future changes in prohibitory rules may establish more stringent requirements which may supersede the conditions listed here.

For further information please consult your SMAQMD rulebook or contact the SMAQMD for assistance.

PAGE 8 OF 9 PAGES PERMIT NO.: 17821 (Rev 01)

### **ATTACHMENT A**

## KIEFER LANDFILL WELLS EXEMPT FROM THE MAXIMUM OXYGEN CONCENTRATION OF CONDITION NO. 14

### Well No.

- 1. H1W
- 2. H4E
- 3. H5E
- 4. H5W
- 5. H7E
- 6. H8E
- 7. H8W
- 8. H9E
- 9. H9W
- 10. H12E
- 11. 11
- 12. 17
- 13. 27A
- 14. 27B
- 15. 43
- 16. 45
- 17. 48B
- 18. 65
- 19. 72
- 20. 73
- 21. 112B
- 22. LCO1

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### SACRAMENTO METROPOLITAN



## PERMIT TO OPERATE

Issued to:

Kiefer Landfill

Department of Waste Management and Recycling

County of Sacramento

Equipment Location: 12701 Kiefer Boulevard, Sloughhouse 95683

Permit No.	Equipment Description		
19188	Trommel Screen, Powerscreen, Model No. 830		
21262	IC Engine (TS), non-road, prime power use		
	Make:	Deutz	
	Model:	BF6L914C	
	Serial No.:	<b>873</b> 8125	
	Engine BHP:	158 HP at 2150 rpm	
	Model Year:	2005	
	EPA Family No.:	5DZXL06.5037	
	Emissions Certification:	Tier 2	
	Engine Type:	4-cycle, turbocharged	
	Fuel:	CARB diesel	
	Equipment Driven:	Trommel screen	

### SUBJECT TO THE FOLLOWING CONDITIONS:

### **GENERAL REQUIREMENTS**

- 1. The equipment shall be properly maintained.
- 2. The SMAQMD Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials, shall be permitted:
  - A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this Permit to Operate.

DATE ISSUED:

10-01-2008

DATE EXPIRES:

01-25-2009 (unless renewed)

Larry Greene

SMAQMD Air Pollution Control Officer

Page 1 of 7 Pages

by: Bruce Nixon

Permit to Operate Nos.: 19188 and 21262

REVOCABLE AND NON-TRANSFERABLE

- B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Permit to Operate.
- C. To inspect any equipment, operation or method required in this Permit to Operate.
- D. To sample emissions from the source or require samples to be taken.
- 3. This Permit to Operate does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the rules and regulations of the SMAQMD.
- 4. A legible copy of this Permit to Operate shall be maintained on the premises with the equipment.

### **EMISSION LIMIT REQUIREMENTS**

- 5. The Trommel Screen and IC Engine (TS) shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
- 6. Emissions from the Trommel Screen shall not exceed the following limits:

P/O 19188 Trommel Screen

Pollutant	Emission Factor (A) lb/ton	Maximum Allowable Emissions (B)					
		Daily lb/day	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	
ROC	0	0	0	0	0	0	
NOx	0	0	0	0	0	0	
SOx	0	0	0	0	0	0	
PM10	0.01	4.5	334	334	334	334	
СО	0	. 0	0	0	0	0	

- (A) Emission factor for PM10 is from a Title V permit evaluation conducted by the BAAQMD for a similar trommel screen process at a composting facility (see Attachment A in SMAQMD engineering evaluation for P/O No. 17921).
- (B) Maximum Allowable Emissions are based on 450 tons/day and 33,436 tons/quarter.

Permit to Operate Nos.: 19188 and 21262

7. Emissions from the IC Engine (TS) shall not exceed the following limits:

P/O 21262 IC Engine (TS)

Pollutant	Emission	Maximum Allowable Emissions (F)			
	Factor (A) grams/hp-hr	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter
ROC (A)	0.27	41	41	41	41
NOx (B)	4.33	661	661	661	661
SO2 (C)	0.05	8	8	8	8
PM10 (D)	0.16	24	24	24	24
CO (E)	0.89	137	137	137	137

- (A) The emission factor for ROC was supplied by Duetz USA because the CARB Off Road Engine Certification only lists the emission factor for the combined NMHC+NOx.
- (B) The emission factor for NOx was supplied by Duetz USA because the CARB Off Road Engine Certification only lists the emission factor for the combined NMHC+NOx.
- (C) The emission factor for SO2 is based on 0.015% sulfur by weight in the diesel fuel.
- (D) The emission factor for PM10 is from the CARB Off Road Engine Certification for this engine model and family U-R-013-0155, dated 09-20-2004.
- (E) The emission factor for CO is from the CARB Off Road Engine Certification for this engine model and family U-R-013-0155, dated 09-20-2004.
- (F) Maximum Allowable Emissions are based on 158 hp, 24 hours/day and 439 hours/calendar quarter.

### **EQUIPMENT OPERATION REQUIREMENTS**

- 8. The IC Engine (TS) shall not remain at the same location for more than 12 consecutive months.
- 9. The maximum amount of material processed in the Trommel Screen shall not exceed:

Equipment	Maximum Allowable Material Processed		
	tons/day	tons/quarter	
Trommel Screen	450	33,436	

10. The IC Engine (TS) shall not operate more than the following hours:

Equipment	Maximum Allowable Operating Hours hours/quarter
IC Engine (TS)	439

- 11. Material processed by the Trommel Screen shall have sufficient moisture to comply with Condition No. 5 for visible emissions.
- 12. The IC Engine (TS) shall be equipped with a non-resetting totalizing hour meter.
- 13. The IC Engine (TS) shall be fueled with:
  - A. CARB diesel fuel, or
  - B. Alternative diesel fuel that has been verified through the CARB Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines, or
  - C. CARB diesel fuel utilizing fuel additives that have been verified through the CARB Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines.

### RECORDKEEPING AND REPORTING REQUIREMENTS

14. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records shall be made available for inspection within 30 days of the end of the reporting period.

Frequency	Information to be recorded			
When IC Engine (TS) is moved	A. The location that the IC Engine (TS) is moved from.			
is moved	B. The location that the IC Engine (TS) is moved to.			
	C. The length of time the IC Engine (TS) operated at the prior location.			
Daily	D. The amount of material processed by the trommel screen. (tons/day)			
Quarterly	E. The amount of material processed by the trommel screen. (tons/quarter)			
	F. The number of hours that the IC Engine (TS) operated. (hours/quarter)			

Permit to Operate Nos.: 19188 and 21262

### **EMISSION REDUCTION CREDIT REQUIREMENTS**

15. The permittee shall surrender (and has surrendered - See Condition No. 16) ERCs to the SMAQMD Air Pollution Control Officer to offset the following amount of project emissions:

Equipment	Amount of Project Emissions for which ERCs are to be Provided lb/quarter			
	Quarter 1	Quarter 4		
Trommel Screen				
PM10	334	334	334	334
IC Engine (TS)				
ROC	50 (41)	50 (41)	50 (41)	50 (41)
NOx	662 (661)	662 (661)	662 (661)	662 (661)
SO2	24 (8)	24 (8)	24 (8)	24 (8)
PM10	24	24	24	24

- (A) The IC Engine's (TS) maximum allowable ROC, NOx and SO2 emissions are shown in parentheses. The amount of leased ROC, NOx and SO2 ERCs required to be provided exceeds the maximum allowable emissions from the IC engine because the permittee's leased ERCs are a replacement for the permittee's previously leased ERCs. The leased ERCs provided in this permit action cannot be less than the amount of leased ERCs previously provided. See discussion in the SMAQMD engineering evaluation for A/C No. 21262.
- 16 The following ERCs have been surrendered to the SMAQMD Air Pollution Control Officer as required in Condition No. 15:

Emission Reduction Credit Certificate No.	Face Value of ERC Certificates Surrendered lb/quarter			Offset Ratio	Value Applied to the Project Emission Liability Ib/quarter				
	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
P/O 19188 Trommel Screen									
No. 2005-04 (A) Placer County APCD Lincoln Brand Feeds									
PM10	501	501	501	501	1.5:1	334	334	334	334

Emission Reduction Credit	Face Value of ERC Certificates Surrendered Ib/quarter			Offset Ratio	Value Applied to the Project Emission Liability Ib/quarter				
Certificate No.	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
P/O 21262 IC Engine (TS)	7,7411,742,174								
Essential Public Services Account SMAQMD Priority Reserve Bank No. P081005 (B) Lease Expires on: 10-01-2012									
ROC	50	50	50	50	1:1	50	50	50	50
NOx	861	861	861	861	1.3:1	662	662	662	662
SO2	24	24	24	24	1:1	24	24	24	24
No. 2005-04 (A) Placer County APCD Lincoln Brand Feeds									
PM10	42	42	42	42	1.5:1	28	28	28	28

(A) The single PCAPCD ERC certificate No. 2005-04 is shown here split into two certificates for comparison with the ERC requirements of Condition No. 15 for the Trommel Screen and IC Engine.

NOTE: The amount of <u>permanent</u> PM10 ERCs provided for the IC engine is enough to offset 28 lb PM10/quarter. This is more than the 24 lb PM10/quarter maximum allowable emissions of the IC engine. This difference resulted from the permittee replacing the original IC engine (P/O 17921) in 2006 with the current IC engine (P/O 21262) but requesting in the 2006 permit action that the ERCs be transferred with no change to their value.

- (B) ERCs in the amount specified shall be provided at all times that the permitted equipment is allowed to operate:
  - 1. The Permit to Operate, after issuance, shall expire on the date the ERCs expire unless replacement ERCs have been provided as specified in (2) below.
  - 2. When ERCs are provided that have an expiration date, and prior to their expiration only, the permittee can provide replacement ERCs. The permittee shall submit a valid permit application to modify the current Permit to Operate and shall pay the required permit fees. The application shall be filed prior to the ERC expiration date such that sufficient time is available to SMAQMD staff to process the application.
    - (a) The application shall be evaluated in accordance with the requirements of the current SMAQMD Rule 202 New Source Review and SMAQMD Rule 204 Emission Reduction Credits.

- (b) ERCs shall be required in an amount which is the larger of:
  - (1) The originally specified amount, or
  - (2) The amount specified by the current SMAQMD Rule 202 New Source Review at the time of replacement.
- 3. Failure to provide replacement ERCs prior to the expiration date of the current ERCs associated with the Permit to Operate shall require that the permittee reapply for an Authority to Construct and Permit to Operate for the subject equipment if continued operation of the equipment is desired. The equipment will be subject to Best Available Control Technology requirements and offsetting requirements of SMAQMD Rule 202 New Source Review at the time of repermitting.

### **EMISSION TESTING REQUIREMENTS**

There are no periodic emission testing requirements.

Your application for this air quality Permit to Operate was evaluated for compliance with Sacramento Metropolitan Air Quality Management District (SMAQMD), state and federal air quality rules. The following SMAQMD rules are those that are most applicable to the operation of your equipment. Other SMAQMD rules may also be applicable.

SMAQMD	
Rule No.	Rule Title
201	General Permit Requirements
202	New Source Review
301	Stationary Source Permit Fees
401	Ringelmann Chart
402	Nuisance
404	Particulate Matter
406	Specific Contaminants
420	Sulfur Content of Fuels
ATCM	Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater [California Code of Regulations, Title 17, begin at Section 93116]

In addition, the conditions on this Permit to Operate may reflect some, but not all, requirements of these rules. There may be other conditions that are applicable to the operation of your equipment. Future changes in prohibitory rules may establish more stringent requirements which may supersede the conditions listed here.

For further information please consult your SMAQMD rulebook or contact the SMAQMD for assistance.

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Permit to Operate Nos.: 19188 and 21262

### SACRAMENTO METROPOLITAN



# PERMIT TO OPERATE

Issued to:

Kiefer Landfill

Department of Waste Management and Recycling

County of Sacramento

Equipment Location: 12701 Kiefer Boulevard and Grantline Road

Sloughhouse

PERMIT NO.	EQUIPMENT DESCRIPTION				
21893	IC Engine (SS2), auxilia Make: Model: Serial No.: Model Year: EPA Family No.: Emissions Certification; Engine Type: Aspiration: Engine BHP; Displacement: Fuel; Equipment Driven;	John Deere John Deere Model 4045HF280B PE4045L074663 2008 8JDXL04.5111 Tier 3 4-cycle Turbocharged 99 HP at 2400 RPM 4.5 liter CARB diesel Vacuum system and brushes on street sweeper			

### SUBJECT TO THE FOLLOWING CONDITIONS:

### **GENERAL REQUIREMENTS**

- 1. The equipment shall be properly maintained.
- 2. The SMAQMD Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials, shall be permitted:
  - A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this Permit to Operate, and

DATE ISSUED:

07-30-2009

DATE EXPIRES:

01-25-2010 (unless renewed)

Larry Greene

SMAQMD Air Pollution Control Officer

by: Brice Nixon

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Permit No.: 21893

**REVOCABLE AND NON-TRANSFERABLE** 

- B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Permit to Operate, and
- C. To inspect any equipment, operation or method required in this Permit to Operate, and
- D. To sample emissions from the source or require samples to be taken.
- 3. This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the rules and regulations of the SMAQMD.
- 4. A legible copy of this Permit to Operate shall be maintained on the premises with the equipment.

### **EMISSION LIMIT REQUIREMENTS**

- 5. The IC engine (SS2) shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
- 6. Emissions from the IC engine (SS2) shall not exceed the following limits:

Pollutant Emission Factor grams/hp-hr	Factor	Maximum Allowable Emissions (D) Ib/quarter						
	Quarter 1	Quarter 2	Quarter 3	Quarter 4				
ROC+NOx	3.0 (A)	NA	NA	NA	NA			
ROC	1.0 (C)	113	113	113	113			
NOx	3.0 (C)	339	339	339	339			
SO2	0.05 (B)	6	6	6	6			
PM10	0.22 (A)	25	25	25	25			
СО	0.67 (A)	76	76	76	76			

- (A) The emission factors for ROC+NOx, PM10 and CO are from the CARB Off Road Engine Certification for this engine model and family dated 12-14-2007.
- (B) The emission factor for SO2 is based on 0.015% sulfur by weight in the diesel fuel.
- (C) For the purpose of calculating NOx and ROC individually, ROC emissions are assessed at the worse case scenario of the uncontrolled U.S. EPA AP-42 emission factor of 1.0 gram/hp-hr and NOx emissions are assessed at the worse case limit of 3.0 gram/hp-hr.
- (D) Maximum Allowable Emissions are based on 99 hp, 24 hours/day and 520 hours/calendar quarter.

### **EQUIPMENT OPERATION REQUIREMENTS**

- 7. The IC engine (SS2) shall not remain at the same location for more than 12 consecutive months.
  - A. "Location" is defined as any single site at a building, structure, facility or installation by SMAQMD Rule 412 Section 208.

Page 2 of 5 Pages Permit No.: 21893

# SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT PERMIT TO OPERATE

8. The IC engine (SS2) shall not operate more than the following hours:

Equipment	Maximum Allowable Operating Hours hours/quarter
IC engine (SS2)	520

- 9. The IC engine (SS2) shall be equipped with a non-resetting totalizing hour meter.
- 10. The IC engine (SS2) shall be fueled with:
  - A. CARB diesel fuel, or

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- B. Alternative diesel fuel that has been verified through the CARB Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines, or
- C. CARB diesel fuel utilizing fuel additives that have been verified through the CARB Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines.

#### RECORDKEEPING AND REPORTING REQUIREMENTS

11. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records shall be made available for inspection within 30 days of the end of the previous quarter.

Frequency	Information to be recorded
Quarterly	A. The number of hours that the IC engine operated. (hours/quarter)

### **EMISSION REDUCTION CREDITS (ERCs) REQUIREMENTS**

12. The permittee shall surrender ERCs to the SMAQMD Air Pollution Control Officer to offset the following amount of project emissions:

Pollutant	Amount of Project Emissions for which ERCs are to be Provided Ib/quarter			
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
NOx	339	339	339	339
SO2	6	6	6	6
PM10	25	25	25	25

Permit No.: 21893

# SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT PERMIT TO OPERATE

13. The following ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the SMAQMD Rule 202 New Source Review requirement as stated in Condition No. 12:

Emission Reduction Credit Certificate No.	Face Value of ERC Certificates Surrendered lb/quarter		Offset Ratio	Valu	Value Applied to the Project Emission Liability lb/quarter				
Certificate No.	Qtr 1	Qtr 2	Qtr 3	Qtr 4	•	Qtr 1	Qtr 2	Qtr 3	Qtr 4
Essential Public Services Account SMAQMD Priority Reserve Bank P09-1013 (A) 4 Year Lease Expires on: 04-01-2013									
NOx	339	339	339	339	1:1	339	339	339	339
SO2	6	6	6	6	1:1	6	6	6	6
PM10	25	25	25	25	1:1	25	25	25	25

- A. Emission Reduction Credits in the amount specified in Condition No. 12 shall be provided at all times that the permitted equipment is allowed to operate:
  - 1. The Permit to Operate, after issuance, shall expire on the date the ERCs expire unless replacement ERCs have been provided as specified in (2) below.
  - 2. When ERCs are provided that have an expiration date, and prior to their expiration only, the permittee can provide replacement ERCs. The permittee shall submit a valid permit application to modify the current Permit to Operate and shall pay the required permit fees. The application shall be filed prior to the ERC expiration date such that sufficient time is available to SMAQMD staff to process the application.
    - (a) The application shall be evaluated in accordance with the requirements of the current SMAQMD Rule 202 New Source Review and Rule 204 Emission Reduction Credits.
    - (b) ERCs shall be required in an amount which is the larger of:
      - (1) The originally specified amount, or
      - (2) The amount specified by the current SMAQMD Rule 202 New Source Review at the time of replacement.
  - 3. Failure to provide replacement ERCs prior to the expiration date of the current ERCs associated with the Permit to Operate shall require that the permittee reapply for an Authority to Construct and Permit to Operate for the subject equipment if continued operation of the equipment is desired. The equipment will be subject to Best Available Control Technology requirements and offsetting requirements of SMAQMD Rule 202 New Source Review at the time of repermitting.

#### **EMISSION TESTING REQUIREMENTS**

There are no periodic emission testing requirements.

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# SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT PERMIT TO OPERATE

Your application for this air quality Permit to Operate was evaluated for compliance with Sacramento Metropolitan Air Quality Management District (SMAQMD), state and federal air quality rules. The following listed SMAQMD rules are those that are most applicable to the operation of your equipment. Other rules may also be applicable.

SMAQMD Rule No.	Rule Title
201	General Permit Requirements
202	New Source Review
401	Ringelmann Chart
402	Nuisance
406	Specific Contaminants
420	Sulfur Content Of Fuels
904 (CARB ATCM)	Airborne Toxic Control Measure For Diesel Particulate Matter From Portable Engines Rated at 50 Horsepower and Greater [California Code of Regulations, Title 17, begin at Section 93116]

In addition, the conditions on this Permit to Operate may reflect some, but not all, requirements of these rules. There may be other conditions that are applicable to the operation of your equipment. Future changes in prohibitory rules may establish more stringent requirements which may supersede the conditions listed here.

For further information please consult your SMAQMD rulebook or contact the SMAQMD for assistance.

Permit No.: 21893



# PERMIT TO OPERATE

ISSUED TO: COUNTY OF SACRAMENTO DEPARTMENT OF WASTE MANAGEMENT AND RECYCLING

EQUIPMENT LOCATION: 12701 KIEFER BOULEVARD, SLOUGHHOUSE, CA 95683

**PERMIT NO.: 20266** 

**EQUIPMENT DESCRIPTION:** GASOLINE STORAGE AND DISPENSING FACILITY CONSISTING OF:

PHASE I EQUIPMEN	T	PHASE	II EQUIPMENT	
NUMBER & SIZE OF TANKS (GALLONS)	PHASE I	NUMBER OF	PHASE II	
1 - 2,500	TWO-POINT	1	BALANCE	

### SUBJECT TO THE FOLLOWING CONDITIONS:

#### GENERAL

- 1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
- THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF **CREDENTIALS SHALL BE PERMITTED:** 
  - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
  - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
  - TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
  - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
- THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART IV, CHAPTER 3 OF THE HEALTH AND SAFETY CODES OF THE STATE OF CALIFORNIA OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
- 4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

DATE ISSUED:

11-30-2007

DATE EXPIRES: 01-25-2008 (UNLESS RENEWED)

LARRY GREENE

AIR POLLUTION CONTROL OFFICER

**PERMIT NO.: 20266** 

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## SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

5. REACTIVE ORGANIC COMPOUND (ROC) EMISSIONS AND GASOLINE THROUGHPUT FROM THIS FACILITY SHALL NOT

	POLLUTANT	EMISSION FACTOR (A)	GASOLINE THROUGHPUT (ALL GRADES COMBINED) MAXIMUM ALLOWABLE EMISS LB/QUARTER	SIONS
-	***************************************		GAL/QUARTER LB/QUARTER	
L	ROC	1.52	30,000 46	
1/	Y FMISSION FA	CTOD IS COOK T		

(A) EMISSION FACTOR IS FROM THE CALIFORNIA AIR POLLUTION CONTROL OFFICERS ASSOCIATION (CAPCOA) GASOLINE SERVICE STATION INDUSTRYWIDE RISK ASSESSMENT GUIDELINES, DECEMBER 1997, APPENDIX A-2,

#### **EQUIPMENT OPERATION**

6. THE GASOLINE DISPENSING FACILITY SHALL BE MAINTAINED, AND OPERATED IN ACCORDANCE WITH THE FOLLOWING CALIFORNIA AIR RESOURCES BOARD (CARB) EXECUTIVE ORDERS. SECTION 41954(F) OF THE CALIFORNIA HEALTH AND SAFETY CODE PROHIBITS THE INSTALLATION OF ANY VAPOR CONTROL SYSTEM UNLESS THE SYSTEM HAS BEEN CERTIFIED BY THE STATE BOARD.

NUMBER	DESCRIPTION	
G-70-116F	CONVAULT ABOVEGROUND TANK VAPOR RECOVERY SYSTEM	

- THE VAPOR RECOVERY SYSTEM SHALL BE OPERATED IN ACCORDANCE WITH THE APPLICABLE CALIFORNIA AIR RESOURCES BOARD CERTIFICATION, THE MANUFACTURER'S SPECIFICATIONS, AND MAINTAINED TO BE LEAK-FREE, VAPOR TIGHT, AND IN GOOD WORKING ORDER.
- 8. ALL EQUIPMENT SHALL BE OPERATED AND MAINTAINED WITHOUT ANY OF THE APPLICABLE DEFECTS LISTED IN CALIFORNIA ADMINISTRATIVE CODE TITLE 17, PART III, CHAPTER 1, SUBCHAPTER 8, SECTION 94006.
- THE OWNER/OPERATOR OF A VAPOR RECOVERY SYSTEM SHALL HAVE AVAILABLE AN OPERATION AND MAINTENANCE MANUAL. THE MANUAL SHALL BE KEPT ON-SITE AND MADE AVAILABLE TO ANY PERSON WHO OPERATES, INSPECTS, MAINTAINS, REPAIRS, OR TESTS THE VAPOR RECOVERY EQUIPMENT AS WELL AS THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. THE MANUAL SHALL, AT MINIMUM, INCLUDE THE FOLLOWING CURRENT INFORMATION:
  - A. ALL APPLICABLE CARB EXECUTIVE ORDERS, APPROVAL LETTERS, AND SMAQMD PERMITS,
  - B. MANUFACTURER'S MANUAL(S) FOR INSTALLATION, OPERATION, AND MAINTENANCE PROCEDURES AS REQUIRED TO BE PROVIDED BY CARB CERTIFICATION PROCEDURE CP-201 AND ANY ADDITIONAL INSTRUCTION PROVIDED BY THE MANUFACTURER,
  - C. SYSTEM AND/OR COMPONENT TESTING REQUIREMENTS, INCLUDING TEST SCHEDULES AND PASSING CRITERIA FOR EACH OF THE STANDARD TESTS LISTED IN SMAQMD RULE 449, SECTION 402, AND
  - D. PROTOCOL FOR PERFORMING DAILY MAINTENANCE INSPECTIONS, INCLUDING THE COMPONENTS TO BE INSPECTED AND THE DEFECTS REQUIRING REPAIR.
- 10. MAINTENANCE INSPECTIONS, EXCEPT AS PROVIDED IN CONDITION NUMBER 11, SHALL BE CONDUCTED FOR EACH DAY THE VAPOR RECOVERY SYSTEM IS OPERATED TO ENSURE THAT VAPOR RECOVERY SYSTEM COMPONENTS THAT ARE VERIFIABLE THROUGH DIRECT MEASUREMENT OR OBSERVATION ARE IN PROPER WORKING ORDER. ANY EQUIPMENT WITH A MAJOR DEFECT LISTED IN CALIFORNIA CODE OF REGULATIONS, TITLE 17, PART III, CHAPTER 1, SUBCHAPTER 8, SECTION 94006, SHALL BE REMOVED FROM SERVICE AND TAGGED TO ENSURE THAT IT IS NOT USED UNTIL IT IS REPAIRED AND BROUGHT INTO COMPLIANCE BEFORE BEING RETURNED TO SERVICE.
- 11. THE MAINTENANCE INSPECTION REQUIREMENTS IN CONDITION NUMBER 10 SHALL NOT BE REQUIRED ON SATURDAYS, SUNDAYS, AND HOLIDAYS FOR GASOLINE DISPENSING FACILITIES WITH A SIX MONTH AVERAGE MONTHLY GASOLINE THROUGHPUT OF LESS THAN 100,000 GALLONS.

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# SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

- 12. THE OWNER OR OPERATOR OF A VAPOR RECOVERY SYSTEM SHALL ENSURE THAT THE REMOVAL FROM SERVICE OF ONE COMPONENT OF A VAPOR RECOVERY SYSTEM WITH MULTIPLE COMPONENTS WILL NOT RESULT IN GASOLINE LIQUID OR VAPORS ENTERING THE ATMOSPHERE. IF THE REMOVAL OF THE DEFECTIVE COMPONENT OF THE VAPOR RECOVERY SYSTEM DOES NOT ENSURE THE INTEGRITY OF THE REST OF THE VAPOR RECOVERY SYSTEM, THEN THE ENTIRE VAPOR RECOVERY SYSTEM SHALL BE SHUTDOWN AND REPAIRED PRIOR TO RETURNING TO SERVICE.
- 13. DEFECTS DISCOVERED DURING THE MAINTENANCE INSPECTION AND REPAIRED IN ACCORDANCE WITH TITLE 17. DIVISION 3, SUBCHAPTER 7.5, CHAPTER 1, SECTION 93101 OF CALIFORNIA CODE OF REGULATIONS SUCH THAT AFTER REPAIR GASOLINE LIQUID OR VAPORS DO NOT ENTER THE ATMOSPHERE SHALL NOT CONSTITUTE A VIOLATION OF RULE 449.

#### **TESTING**

- 14. THE FOLLOWING PERFORMANCE AND REVERIFICATION TESTS SHALL BE CONDUCTED AND PASSED ACCORDING TO THE SCHEDULE LISTED IN CONDITION 15.
  - A. STATIC PRESSURE (LEAK DECAY) TEST, ACCORDING TO THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT MANUAL OF PROCEDURES, SOURCE TEST PROCEDURE ST-30 OR CARB TEST PROCEDURE TP-201.
  - B. ANY OTHER TESTS REQUIRED BY AN APPLICABLE CARB EXECUTIVE ORDER.
- 15. THE PERFORMANCE AND REVERIFICATION TESTS SPECIFIED IN CONDITION NO. 14 SHALL BE CONDUCTED AND PASSED ACCORDING TO THE FOLLOWING FREQUENCY:

	AVERAGE MONTHLY	
TEST NAME	GASOLINE THROUGHPUT (SIX MONTH AVERAGE) (A)	TESTING FREQUENCY
STATIC PRESSURE TEST	LESS THAN 100,000 GALLONS	ONCE EVERY 12 MONTHS

- (A) THE SIX MONTH PERIOD SHALL BEGIN ON THE FIRST OF THE MONTH IMMEDIATELY FOLLOWING THE MOST RECENT SUCCESSFUL TEST.
- (B) GASOLINE DISPENSING FACILITIES WITH A SIX MONTH AVERAGE MONTHLY GASOLINE THROUGHPUT OF 100,000 GALLONS OR GREATER SHALL CONDUCT AND PASS ALL REVERIFICATION TESTS WITHIN 30 DAYS OF THE END OF THE SIX-MONTH PERIOD.

#### **EMISSION OFFSET**

16. EMISSION REDUCTION CREDITS IN THE FOLLOWING AMOUNTS HAVE BEEN LEASED FROM THE SMAQMD COMMUNITY BANK UNDER LOAN NO. C07-1010

POLLUTANT	QUARTER 1	QUARTER 2	QUARTER 3	QUARTER 4
	(90 DAYS)	(91 DAYS)	(92 DAYS)	(92 DAYS)
ROC (POUNDS)	46	46	46	46

# SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

- 17. EMISSION REDUCTION CREDITS (ERC) IN THE AMOUNT SPECIFIED IN CONDITION NO. 16 SHALL BE PROVIDED AT ALL TIMES THAT THE PERMITTED EQUIPMENT IS ALLOWED TO OPERATE:
  - A. THE PERMIT TO OPERATE SHALL EXPIRE ON JULY 1, 2012 UNLESS REPLACEMENT ERC(S) HAVE BEEN PROVIDED AS SPECIFIED IN 17B.
  - B. WHEN ERC(S) ARE PROVIDED THAT HAS AN EXPIRATION DATE, AND PRIOR TO THEIR EXPIRATION ONLY, THE PERMITTEE CAN PROVIDE REPLACEMENT ERC(S).
    - 1) THE OWNER/OPERATOR SHALL SUBMIT A VALID PERMIT APPLICATION TO MODIFY THE CURRENT PERMIT TO OPERATE AND SHALL PAY THE REQUIRED PERMIT FEES. THE APPLICATION SHALL BE FILED PRIOR TO THE ERC EXPIRATION DATE SUCH THAT SUFFICIENT TIME IS AVAILABLE TO SMAQMD STAFF TO PROCESS THE APPLICATION.
    - 2) THE APPLICATION SHALL BE EVALUATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT RULE 202 NEW SOURCE REVIEW AND RULE 204 EMISSION REDUCTION CREDITS.
    - 3) ERC(S) SHALL BE REQUIRED IN AN AMOUNT WHICH IS THE LARGER OF:
      A)THE ORIGINALLY SPECIFIED AMOUNT, OR

B)THE AMOUNT SPECIFIED BY THE CURRENT RULE 202 - NEW SOURCE REVIEW AT THE TIME OF REPLACEMENT.

C. FAILURE TO PROVIDE REPLACEMENT ERC(S) PRIOR TO THE EXPIRATION DATE OF THE CURRENT ERC(S) ASSOCIATED WITH THE PERMIT TO OPERATE SHALL REQUIRE THAT THE OWNER/OPERATOR REAPPLY FOR A PERMIT TO CONSTRUCT AND PERMIT TO OPERATE THE SUBJECT EQUIPMENT IF CONTINUED OPERATION OF THE EQUIPMENT IS DESIRED. THE EQUIPMENT SHALL BE SUBJECT TO BEST AVAILABLE CONTROL TECHNOLOGY AND OFFSETTING REQUIREMENTS OF RULE 202 - NEW SOURCE REVIEW AT THE TIME OF REPERMITTING.

#### NOTIFICATION AND REPORTING

- 18. AT LEAST 7 DAYS PRIOR TO THE PERFORMANCE OF REVERIFICATION TESTING, THE OWNER OR OPERATOR SHALL NOTIFY THE AIR POLLUTION CONTROL OFFICER OF THE EXACT DATE AND TIME OF THE TEST. IF THE VAPOR RECOVERY SYSTEM FAILS ANY OF THE APPLICABLE TESTS AND THE NECESSARY REPAIRS ARE PERFORMED THAT SAME DAY, THE OWNER OR OPERATOR MAY RETEST THE VAPOR RECOVERY SYSTEM ON THE SAME DAY WITHOUT RE-NOTIFICATION, PROVIDED THAT THE REASONS FOR THE TEST FAILURE AND ANY REPAIRS PERFORMED ARE PROPERLY DOCUMENTED IN THE TEST REPORTS AND REPAIR RECORDS.
- 19. RESULTS OF THE REVERIFICATION TESTS SHALL BE DELIVERED TO THE AIR POLLUTION CONTROL OFFICER WITHIN THIRTY DAYS OF COMPLETION OF THE TEST. THE TEST RESULTS SHALL CONTAIN THE FOLLOWING INFORMATION:
  - A. NAME, LOCATION, ADDRESS, AND TELEPHONE NUMBER OF THE FACILITY TESTED, AND SMAQMD PERMIT NUMBER
  - B. NAME, ADDRESS AND PHONE NUMBER OF THE PERSON OR COMPANY PERFORMING THE TEST
  - C. DATE OF THE TEST
  - D. TEST DATA
  - E. NUMBER OF NOZZLES TESTED
  - F. STATEMENT OF PASS OR FAIL

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# SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

#### RECORD KEEPING

20. THE FOLLOWING RECORD SHALL BE CONTINUOUSLY MAINTAINED ON SITE FOR THE MOST RECENT THREE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY AND QUARTERLY RECORDS SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS OF THE END OF THE PREVIOUS MONTH OR QUARTER, RESPECTIVELY.

FREQUENCY	INFORMATION TO BE RECORDED
AT ALL TIMES	A. MAINTENANCE RECORDS FOR THE VAPOR RECOVERY SYSTEM. B. REPAIR RECORDS FOR THE VAPOR RECOVERY SYSTEM. C. DAILY MAINTENANCE INSPECTION REPORTS. D. RECORDS OF REPAIRS PERFORMED AS A RESULT OF DEFECTS DISCOVERED DURING DAILY MAINTENANCE INSPECTIONS. E. PERFORMANCE TEST RESULTS. F. REVERIFICATION OF PERFORMANCE TEST RESULTS. G. SIX-MONTH AVERAGE MONTHLY GASOLINE THROUGHPUT. THE SIX-MONTH PERIOD SHALL BEGIN ON THE FIRST OF THE MONTH IMMEDIATELY FOLLOWING THE MOST
DAILY	RECENT SUCCESSFUL REVERIFICATION TESTS.  DAILY MAINTENANCE INSPECTION REPORTS INCLUDING AT LEAST THE FOLLOWING:  A. DATE AND TIME OF INSPECTION.  B. LIST OF DEFECTS FROM THE CALIFORNIA CODE OF REGULATIONS, TITLE 17, PART III, CHAPTER 1, SUBCHAPTER 8, SECTION 94006 THAT ARE APPLICABLE TO THE VAPOR RECOVERY EQUIPMENT AND HAVE A VERIFICATION PROCEDURE OF "DIRECT OBSERVATION" OR "DIRECT MEASUREMENT".  C. NOTATION BY PERSON PERFORMING INSPECTION WHETHER EACH DEFECT IS PRESENT.  D. DESCRIPTION OF ANY DEFECTS DISCOVERED.  E. ACTION TAKEN UPON DISCOVERY OF A DEFECT.  F. NAME AND SIGNATURE OF PERSON PERFORMING INSPECTION.
MONTHLY	TOTAL GASOLINE THROUGHPUT (GALLONS PER MONTH)
QUARTERLY	TOTAL GASOLINE THROUGHPUT (GALLONS PER QUARTER)

YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT.

AQMD RULE NO.	RIIFTITE	
201 202	GENERAL PERMIT REQUIREMENTS NEW SOURCE REVIEW	
448 440	GASOLINE TRANSFER INTO STATIONAR	Y STORAGE CONTAINERS
	TRANSFER OF GASOLINE INTO VEHICLE	FUEL TANKS

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULE BOOK OR CONTACT THE AQMD FOR ASSISTANCE

**MANAGEMENT DISTRICT** 

## **AUTHORITY TO CONSTRUCT**

A/C NO.:

22922 & 22923

DATE ISSUED: MAY 3, 2011

**DATE EXPIRES:** MAY 3, 2013

ISSUED TO:

KIEFER LANDFILL, DEPARTMENT OF WASTE MANAGEMENT AND RECYCLING.

ISSUED BY: Felix

COUNTY OF SACRAMENTO

LOCATION:

12701 KIEFER BLVD., SLOUGHHOUSE, CA 95683

DESCRIPTION: AC 22922: TROMMEL SCREEN, MAKE: MCCLOSKEY, MODEL: 733 RE, SERIAL

NUMBER: 80169.

AC 22923: IC ENGINE (TSB), NON-ROAD, PRIME POWER USE, MAKE: CATERPILLAR/PERKINS, MODEL: 2478, SERIAL NUMBER: 66614944, 225 HP @

2200 RPM, DIESEL FUELED, DRIVING A TROMMEL SCREEN (AC 22922).

#### AUTHORITY TO CONSTRUCT CONDITIONS

#### START-UP REQUIREMENTS

- S1. UPON INSTALLATION OF THE EQUIPMENT AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD) AT (916) 874-4800 TO ARRANGE FOR A START-UP INSPECTION.
- S2. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
  - A. THE SMAQMD HAS BEEN NOTIFIED TO CONDUCT A START-UP INSPECTION.
  - B. THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT.
  - C. THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THIS AUTHORITY TO CONSTRUCT.
- S3. THE OWNER OR OPERATOR OF A THE STATIONARY SOURCE SHALL SUBMIT TO THE AIR POLLUTION CONTROL OFFICER A COMPLETE TITLE V PERMIT APPLICATION FOR MINOR TITLE V PERMIT MODIFICATION PRIOR TO COMMENCING OPERATION ASSOCIATED WITH THE MINOR TITLE V PERMIT MODIFICATION.

#### **GENERAL**

- 1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED AND OPERATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AT ALL TIMES.
- THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
  - TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
  - AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND

MANAGEMENT DISTRICT

### **AUTHORITY TO CONSTRUCT**

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CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND

- C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND
- D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
- 3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
- 4. THE EQUIPMENT SHALL NOT DISCHARGE SUCH QUANTITIES OF AIR CONTAMINANTS OR OTHER MATERIALS WHICH CAUSE INJURY, DETRIMENT, NUISANCE OR ANNOYANCE TO ANY CONSIDERABLE NUMBER OF PERSONS OR TO THE PUBLIC, OR WHICH ENDANGER THE COMFORT, REPOSE, HEALTH, OR SAFETY OF ANY SUCH PERSONS OR THE PUBLIC, OR WHICH CAUSE, OR HAVE A NATURAL TENDENCY TO CAUSE, INJURY OR DAMAGE TO BUSINESS OR PROPERTY.
- 5. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

#### **EMISSION LIMITATIONS**

- 6. THE TROMMEL SCREEN AND IC ENGINE (TSB) SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
- 7. EMISSIONS FROM THE TROMMEL SCREEN SHALL NOT EXCEED THE FOLLOWING LIMITS:

	EMISSION		MAXIMUM	ALLOWABLE EMIS	SSIONS (B)	
POLLUTANT	FACTOR (A) LB/TON	DAILY LB/DAY	QUARTER 1 LB/QUARTER	QUARTER 2 LB/QUARTER	QUARTER 3 LB/QUARTER	QUARTER 4 LB/QUARTER
ROC	NA	NA	NA	NA	NA	NA
NOX	NA	NA	NA	NA	NA	NA
sox	NA	NA	NA	NA	NA	NA
PM10	0.01	9.9	293	293	293	293
СО	NA	NA	NA	NA	NA	NA

- (A) EMISSION FACTOR FOR PM10 IS FROM THE TITLE V PERMIT EVALUATION CONDUCTED BY THE BAAQMD FOR A SIMILAR TROMMEL SCREEN PROCESS AT A COMPOSTING FACILITY.
- (B) MAXIMUM ALLOWABLE EMISSIONS ARE BASED ON 990 TONS/DAY AND 29,250 TONS/QUARTER.
- 8. EMISSIONS FROM THE IC ENGINE (TSB) SHALL NOT EXCEED THE FOLLOWING LIMITS:

	EMISSION		MAXIMUM	ALLOWABLE EMIS	SSIONS (B)	
POLLUTANT	FACTOR (A) GRAMS/HP-HR	DAILY LB/DAY	QUARTER 1 LB/QUARTER	QUARTER 2 LB/QUARTER	QUARTER 3 LB/QUARTER	QUARTER 4 LB/QUARTER
ROC	1.0	11.9	258	258	258	258
NOX	2.76	32.9	712	712	712	712
NOX + ROC	2.76	32.9	712	712	712	712
SOX	0.005	0.1	1	1	1	1
PM10	0.13	1.5	34	34	34	34

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	EMISSION		MAXIMUM	ALLOWABLE EMIS	SSIONS (B)	
POLLUTANT	FACTOR (A) GRAMS/HP-HR	DAILY LB/DAY	QUARTER 1 LB/QUARTER	QUARTER 2 LB/QUARTER	QUARTER 3 LB/QUARTER	QUARTER 4 LB/QUARTER
со	1.12	13.3	289	289	289	289

(A) THE EMISSION FACTOR FOR ROC AND NOX COMBINED IS 2.76 G/HP-HR FROM THE CARB OFF ROAD ENGINE CERTIFICATION (CARB EXECUTIVE ORDER U-R-022-015), DATED JANUARY 16, 2009. THE EMISSION FACTOR USED FOR NOX IS 2.76 G/HP-HR BECAUSE IT IS THE WORST CASE EMISSION FACTOR. THE EMISSION FACTOR USED FOR ROC IS THE EMISSION FACTOR USED FOR SMAQMD BACT DETERMINATIONS (EVEN THOUGH BACT IS NOT APPLICABLE). EMISSION FACTORS FOR PM10 AND CO ARE FROM THE CARB OFF ROAD ENGINE CERTIFICATION, DATED JANUARY 16, 2009.

EMISSION FACTOR FOR SOX IS BASED ON 0.0015% SULFUR BY WEIGHT IN THE DIESEL FUEL.

(B) MAXIMUM ALLOWABLE EMISSIONS ARE BASED ON 225 HP, 24 HOURS/DAY AND 520 HOURS/CALENDAR QUARTER.

#### **EQUIPMENT OPERATION REQUIREMENTS**

- 9. THE IC ENGINE (TSB) SHALL NOT REMAIN AT THE SAME LOCATION FOR MORE THAN 12 CONSECUTIVE MONTHS.
- 10. THE MAXIMUM AMOUNT OF MATERIAL PROCESSED IN THE TROMMEL SCREEN SHALL NOT EXCEED:

EQUIPMENT	MAXIMUM ALLOWABLE MATERIAL PROCESSED				
-	TONS/DAY TONS/QUARTER				
TROMMEL SCREEN	990	29,250			

11. THE IC ENGINE (TSB) SHALL NOT OPERATE MORE THAN THE FOLLOWING HOURS:

EQUIPMENT	MAXIMUM ALLOWABLE OPERATING HOURS
	HOURS/QUARTER
IC ENGINE (TSB)	520

- 12. MATERIAL PROCESSED BY THE TROMMEL SCREEN MUST HAVE SUFFICIENT MOISTURE TO COMPLY WITH CONDITION NO. 6 FOR VISIBLE EMISSIONS.
- 13. THE IC ENGINE (TSB) SHALL BE EQUIPPED WITH A NON-RESETTING TOTALIZING HOUR METER.

#### RECORDKEEPING AND REPORTING REQUIREMENTS

14. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ONSITE FOR THE MOST RECENT FIVE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. QUARTERLY RECORDS SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS OF THE END OF THE PREVIOUS QUARTER.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN EQUIPMENT IS MOVED	A. THE LOCATION THAT THE EQUIPMENT IS MOVED FROM.  B. THE LOCATION THAT THE EQUIPMENT IS MOVED TO.  C. THE LENGTH OF TIME THE EQUIPMENT OPERATED AT THE PRIOR LOCATION.
DAILY	D. THE AMOUNT OF MATERIAL PROCESSED BY THE TROMMEL SCREEN. (TONS/DAY)
QUARTERLY	E. THE AMOUNT OF MATERIAL PROCESSED BY THE TROMMEL SCREEN. (TONS/QUARTER)

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# **AUTHORITY TO CONSTRUCT**

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#### **EMISSION REDUCTION CREDITS**

15. THE PERMITTEE SHALL SURRENDER ERCS TO THE SMAQMD AIR POLLUTION CONTROL OFFICER TO OFFSET THE FOLLOWING AMOUNT OF PROJECT EMISSIONS:

EQUIPMENT	AMOUNT OF PROJECT EMISSIONS FOR WHICH ERCS ARE TO BE PROVIDED LB/QUARTER					
	QUARTER 1	QUARTER 2	QUARTER 3	QUARTER 4		
TROMMELSCREEN						
PM10	293	293	293	293		
ie englye (risa)						
NOX	712	712	712	712		
PM10	34	34	34	34		
SOX	1	1	1	1		

16. THE FOLLOWING ERCS HAVE BEEN PROPOSED TO BE LEASED/SURRENDERED TO THE SMAQMD AIR POLLUTION CONTROL OFFICER AS REQUIRED IN CONDITION NO. 15:

EMISSION REDUCTION CREDIT CERTIFICATE NO.		SURREI LB/QU	ARTER		OFFSET RATIO		APPLIED EMISSION	LIABILITY ARTER	
TROMMEL SCREEN	QTR 1	QTR 2	QTR 3	QTR 4		QTR 1	QTR 2	QTR 3	QTR 4
ESSENTIAL PUBLIC SERVICES ACCOUNT SMAQMD PRIORITY RESERVE BANK P11XXXX (A) 5 YEAR LEASE EXPIRES ON: XX-XX-20XX						oughteen de la constitue de la			
PM10	293	293	293	293	1:1	293	293	293	293
ICENGINE (ISB)									
ESSENTIAL PUBLIC SERVICES ACCOUNT SMAQMD PRIORITY RESERVE BANK P11XXXX (A) 5 YEAR LEASE EXPIRES ON: XX-XX-20XX				A ROSANCE		,			
NOX	712	712	712	712	1:1	712	712	712	712
PM10	34	34	34	34	1:1	34	34	34	34
sox	1	1	1	1	1:1	1	1	1	1

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A/C NO.: 22922 & 22923

- A. EMISSION REDUCTION CREDITS IN THE AMOUNT SPECIFIED IN CONDITION NO. 15 SHALL BE PROVIDED AT ALL TIMES THAT THE PERMITTED EQUIPMENT IS ALLOWED TO OPERATE:
  - 1. THE PERMIT TO OPERATE, AFTER ISSUANCE, SHALL EXPIRE ON THE DATE THE ERCS EXPIRE UNLESS REPLACEMENT ERCS HAVE BEEN PROVIDED AS SPECIFIED IN (2) BELOW.
  - 2. WHEN ERCS ARE PROVIDED THAT HAVE AN EXPIRATION DATE, AND PRIOR TO THEIR EXPIRATION ONLY, THE PERMITTEE CAN PROVIDE REPLACEMENT ERCS. THE PERMITTEE SHALL SUBMIT A VALID PERMIT APPLICATION TO MODIFY THE CURRENT PERMIT TO OPERATE AND SHALL PAY THE REQUIRED PERMIT FEES. THE APPLICATION SHALL BE FILED PRIOR TO THE ERC EXPIRATION DATE SUCH THAT SUFFICIENT TIME IS AVAILABLE TO SMAQMD STAFF TO PROCESS THE APPLICATION.
    - (A) THE APPLICATION SHALL BE EVALUATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT SMAQMD RULE 202 NEW SOURCE REVIEW AND RULE 204 EMISSION REDUCTION CREDITS.
    - (B) ERCS SHALL BE REQUIRED IN AN AMOUNT WHICH IS THE LARGER OF:
      - (1) THE ORIGINALLY SPECIFIED AMOUNT, OR
      - (2) THE AMOUNT SPECIFIED BY THE CURRENT SMAQMD RULE 202 NEW SOURCE REVIEW AT THE TIME OF REPLACEMENT.
  - 3. FAILURE TO PROVIDE REPLACEMENT ERCS PRIOR TO THE EXPIRATION DATE OF THE CURRENT ERCS ASSOCIATED WITH THE PERMIT TO OPERATE SHALL REQUIRE THAT THE PERMITTEE REAPPLY FOR AN AUTHORITY TO CONSTRUCT AND PERMIT TO OPERATE FOR THE SUBJECT EQUIPMENT IF CONTINUED OPERATION OF THE EQUIPMENT IS DESIRED. THE EQUIPMENT WILL BE SUBJECT TO BEST AVAILABLE CONTROL TECHNOLOGY REQUIREMENTS AND OFFSETTING REQUIREMENTS OF SMAQMD RULE 202 NEW SOURCE REVIEW AT THE TIME OF REPERMITTING.

#### **EMISSION TESTING REQUIREMENTS**

THERE ARE NO PERIODIC EMISSION TESTING REQUIREMENTS.

**MANAGEMENT DISTRICT** 

### **AUTHORITY TO CONSTRUCT**

A/C NO.: 22922 & 22923

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

AQMD RULE NO.	RULE TITLE
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
402	NUISANCE
403	FUGITIVE DUST
404	PARTICULATE MATTER
406	SPECIFIC CONTAMINANTS
420	SULFUR CONTENT OF FUELS
904	SECTION 93116 - AIRBORNE TOXIC CONTROL MEASURE FOR DIESEL PARTICULATE MATTER FROM PORTABLE ENGINES RATED AT 50 HORSEPOWER AND GREATER

IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

MANAGEMENT DISTRICT

# **AUTHORITY TO CONSTRUCT**

A/C NO.:

23105

ISSUED BY: <u>Jelin</u>

DATE ISSUED: SEPTEMBER 23, 2011

**DATE EXPIRES: SEPTEMBER 23, 2013** 

**ISSUED TO:** 

KIEFER LANDFILL, DEPARTMENT OF WASTE MANAGEMENT AND RECYCLING,

**COUNTY OF SACRAMENTO** 

LOCATION:

12701 KIEFER BLVD., SLOUGHOUSE, CA 95683

DESCRIPTION:

MODIFICATION OF IC ENGINE UNDER PERMIT TO OPERATE 19363 TO REPLACE EXPIRING ERCS. IC ENGINE (AUXILIARY ON STREET SWEEPER (SS1)), NON-ROAD, PRIME POWER USE, MAKE: JOHN DEERE, MODEL: 4045TF270, SERIAL NO.: PE4045T533975, 99 HP @ 2500 RPM, DIESEL FUELED, DRIVING A VACUUM SYSTEM AND BRUSHES ON A STREET SWEEPER.

# **AUTHORITY TO CONSTRUCT CONDITIONS**

#### START-UP REQUIREMENTS

- S1. THIS AUTHORITY TO CONSTRUCT HAS BEEN REVIEWED THROUGH AN ENHANCED NEW SOURCE REVIEW PROCESS IN ACCORDANCE WITH THE PROCEDURAL REQUIREMENTS OF SECTION 401 THROUGH 408 OF RULE 207 TITLE V - FEDERAL OPERATING PERMIT PROGRAM.
- S2. THE OWNER OR OPERATOR OF A STATIONARY SOURCE SHALL SUBMIT TO THE AIR POLLUTION CONTROL OFFICER AN APPLICATION TO MODIFY THE TITLE V PERMIT WITH AN ADMINISTRATIVE TITLE V PERMIT AMENDMENT PRIOR TO COMMENCING OPERATION WITH MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.

#### **GENERAL**

- 1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED AND OPERATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AT ALL TIMES.
- THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
  - TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
  - AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND В. CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
  - TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND C.
  - TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
- 3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.

MANAGEMENT DISTRICT

# **AUTHORITY TO CONSTRUCT**

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- 4. THE EQUIPMENT SHALL NOT DISCHARGE SUCH QUANTITIES OF AIR CONTAMINANTS OR OTHER MATERIALS WHICH CAUSE INJURY, DETRIMENT, NUISANCE OR ANNOYANCE TO ANY CONSIDERABLE NUMBER OF PERSONS OR TO THE PUBLIC, OR WHICH ENDANGER THE COMFORT, REPOSE, HEALTH, OR SAFETY OF ANY SUCH PERSONS OR THE PUBLIC, OR WHICH CAUSE, OR HAVE A NATURAL TENDENCY TO CAUSE, INJURY OR DAMAGE TO BUSINESS OR PROPERTY.
- 5. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

#### **EMISSION LIMITATIONS**

- 6. THE IC ENGINE (AUXILIARY ON STREET SWEEPER) SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
- 7. EMISSIONS FROM THE IC ENGINE (AUXILIARY ON STREET SWEEPER) SHALL NOT EXCEED THE FOLLOWING LIMITS:

		MAX	IMUM ALLOWABLE EMISSION	IS (B)
POLLUTANT	EMISSION FACTOR (A) GRAMS/HP-HR	DAILY LB/DAY	QUARTERLY LB/QUARTER	YEARLY LB/YEAR
ROC	0.34	1.8	39	156
NOX	3.98	20.9	452	1,808
SOX	0.005	0.0	1	4
PM10	0.18	0.9	20	80
СО	1.04	5.5	118	472
GHG	511.75	1.3 TONS/DAY	29 TONS/QUARTER	116 TONS/YEAR

<sup>(</sup>A) EMISSION FACTORS FOR ROC AND NOX WERE SUPPLIED BY JOHN DEERE BECAUSE THE CARB OFF ROAD ENGINE CERTIFICATION ONLY LISTS THE EMISSION FACTOR FOR THE COMBINED NMHC+NOX. THE EMISSION FACTORS FOR PM10 AND CO ARE FROM THE CARB OFF ROAD ENGINE CERTIFICATION FOR THIS ENGINE MODEL AND FAMILY DATED 10-04-2004. THE EMISSION FACTOR FOR SOX IS BASED ON 0.0015% SULFUR BY WEIGHT IN THE DIESEL FUEL. GHG EMISSION FACTOR IS THE CO2E EMISSION FACTOR AS PER APPENDIX A OF CARB'S REGULATION FOR THE MANDATORY REPORTING OF GREENHOUSE GAS EMISSIONS (CCR, TITLE 17, SUBCHAPTER 10, ARTICLE 2, SECTIONS 95100 TO 95133). ALL EMISSION LIMITS ARE IN ENGLISH UNITS.

(B) MAXIMUM ALLOWABLE EMISSIONS ARE BASED ON 99 HP 24 HOURS/DAY AND 520 HOURS/CALENDAR QUARTER. THE YEARLY EMISSIONS ARE BASED ON THE CUMULATIVE QUARTERLY EMISSIONS.

#### **EQUIPMENT OPERATION**

- THE IC ENGINE (AUXILIARY ON STREET SWEEPER) SHALL NOT REMAIN AT THE SAME LOCATION FOR MORE THAN 12
  CONSECUTIVE MONTHS.
- 9. THE IC ENGINE (AUXILIARY ON STREET SWEEPER) SHALL NOT OPERATE MORE THAN THE FOLLOWING HOURS:

EQUIPMENT	MAXIMUM ALLOWABLE OPERATING HOURS HOURS/QUARTER
IC ENGINE (AUXILIARY ON STREET SWEEPER)	520

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## **AUTHORITY TO CONSTRUCT**

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- 10. THE IC ENGINE (AUXILIARY ON STREET SWEEPER) SHALL BE EQUIPPED WITH A NON-RESETTING TOTALIZING HOUR METER.
- 11. THE IC ENGINE (AUXILIARY ON STREET SWEEPER) SHALL BE FUELED WITH:
  - A. CARB DIESEL FUEL, OR
  - B. ALTERNATIVE DIESEL FUEL THAT HAS BEEN VERIFIED THROUGH THE CARB VERIFICATION PROCEDURE FOR IN-USE STRATEGIES TO CONTROL EMISSIONS FROM DIESEL ENGINES, OR
  - C. CARB DIESEL FUEL UTILIZING FUEL ADDITIVES THAT HAVE BEEN VERIFIED THROUGH THE CARB VERIFICATION PROCEDURE FOR IN-USE STRATEGIES TO CONTROL EMISSIONS FROM DIESEL ENGINES.

#### RECORDKEEPING AND REPORTING

12. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ONSITE FOR THE MOST RECENT FIVE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. QUARTERLY RECORDS SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS OF THE END OF THE PREVIOUS QUARTER.

FREQUENCY	INFORMATION TO BE RECORDED
QUARTERLY	A. THE NUMBER OF HOURS THAT THE IC ENGINE OPERATED. (HOURS/QUARTER)

#### **EMISSION REDUCTION CREDITS**

13. THE PERMITTEE SHALL SURRENDER ERCS TO THE AIR POLLUTION CONTROL OFFICER TO OFFSET THE FOLLOWING AMOUNT OF PROJECT EMISSIONS:

POLLUTANT	AMOUNT OF PROJECT EMISSIONS FOR WHICH ERCS ARE TO BE PROVIDED LB/QUARTER					
	QUARTER 1	QUARTER 2	QUARTER 3	QUARTER 4		
ROC	39	39	39	39		
NOX	452	452	452	452		
SOX	19	19	19	19		
PM10	20	20	20	20		

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### **AUTHORITY TO CONSTRUCT**

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14. THE FOLLOWING ERCS HAVE BEEN PROPOSED TO BE LEASED/SURRENDERED TO THE AIR POLLUTION CONTROL OFFICER AS REQUIRED IN CONDITION NO. 15:

#### THE ERCS SHALL BE LEASED/SURRENDERED PRIOR TO THE PERMIT TO OPERATE BEING ISSUED.

EMISSION REDUCTION CREDIT CERTIFICATE NO.	FACE VALUE OF ERC CERTIFICATES SURRENDERED LB/QUARTER			OFFSET RATIO	VALUE APPLIED TO THE PROJECT EMISSION LIABILITY LB/QUARTER				
OERTHIOATE NO.	QTR 1	QTR 2	QTR 3	QTR 4		QTR 1	QTR 2	QTR 3	QTR 4
ESSENTIAL PUBLIC SERVICES ACCOUNT SMAQMD COMMUNITY BANK P11XXXX (A) LEASE EXPIRES ON: 10-01-2014									
ROC	39	39	39	39	1:1	39	39	39	39
NOX	452	452	452	452	1:1	452	452	452	452
SOX	19	19	19	19	1:1	19	19	19	19
PM10	20	20	20	20	1:1	20	20	20	20

- (A) LEASED EMISSION REDUCTION CREDITS IN THE AMOUNT SPECIFIED IN CONDITION NO. 13 SHALL BE PROVIDED AT ALL TIMES THAT THE PERMITTED EQUIPMENT IS ALLOWED TO OPERATE:
  - 1. THE PERMIT TO OPERATE, AFTER ISSUANCE, SHALL EXPIRE ON THE DATE THE ERCS EXPIRE UNLESS REPLACEMENT ERCS HAVE BEEN PROVIDED AS SPECIFIED IN (2) BELOW.
  - 2. WHEN ERCS ARE PROVIDED THAT HAVE AN EXPIRATION DATE, AND PRIOR TO THEIR EXPIRATION ONLY, THE PERMITTEE CAN PROVIDE REPLACEMENT ERCS. THE PERMITTEE SHALL SUBMIT A VALID PERMIT APPLICATION TO MODIFY THE CURRENT PERMIT TO OPERATE AND SHALL PAY THE REQUIRED PERMIT FEES. THE APPLICATION SHALL BE FILED PRIOR TO THE ERC EXPIRATION DATE SUCH THAT SUFFICIENT TIME IS AVAILABLE TO SMAQMD STAFF TO PROCESS THE APPLICATION.
    - (A) THE APPLICATION SHALL BE EVALUATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT SMAQMD RULE 202 NEW SOURCE REVIEW AND SMAQMD RULE 204 EMISSION REDUCTION CREDITS.
    - (B) ERCS SHALL BE REQUIRED IN AN AMOUNT WHICH IS THE LARGER OF:
      - (1) THE ORIGINALLY SPECIFIED AMOUNT, OR
      - (2) THE AMOUNT SPECIFIED BY THE CURRENT SMAQMD RULE 202 NEW SOURCE REVIEW AT THE TIME OF REPLACEMENT.
  - 3. FAILURE TO PROVIDE REPLACEMENT ERCS PRIOR TO THE EXPIRATION DATE OF THE CURRENT ERCS ASSOCIATED WITH THE PERMIT TO OPERATE SHALL REQUIRE THAT THE PERMITTEE REAPPLY FOR AN AUTHORITY TO CONSTRUCT AND PERMIT TO OPERATE FOR THE SUBJECT EQUIPMENT IF CONTINUED OPERATION OF THE EQUIPMENT IS DESIRED. THE EQUIPMENT WILL BE SUBJECT TO BEST AVAILABLE CONTROL TECHNOLOGY REQUIREMENTS AND OFFSETTING REQUIREMENTS OF SMAQMD RULE 202 - NEW SOURCE REVIEW AT THE TIME OF REPERMITTING.

#### **EMISSION TESTING REQUIREMENTS**

NO PERIODIC EMISSION TESTING REQUIREMENTS.

MANAGEMENT DISTRICT

## **AUTHORITY TO CONSTRUCT**

A/C NO.: 23105

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

AQMD RULE NO.	RULE TITLE
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
402	NUISANCE
406	SPECIFIC CONTAMINANTS
420	SULFUR CONTENT OF FUELS
904	AIRBORNE TOXIC COTROL MEASURE FOR DIESEL PARTICULATE MATTER FROM PORTABLE ENGINES RATED AT 50 HORSEPOWER AND GREATER

IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

MANAGEMENT DISTRICT

## **AUTHORITY TO CONSTRUCT**

A/C NO.:

23110

ISSUED BY: Jelin

DATE ISSUED: DECEMBER 6, 2011

DATE EXPIRES: DECEMBER 6, 2013

ISSUED TO:

KIEFER LANDFILL, DEPARTMENT OF WASTE MANAGEMENT AND RECYCLING,

COUNTY OF SACRAMENTO

LOCATION:

12701 KIEFER BOULEVARD, SLOUGHOUSE, CA 95683

DESCRIPTION:

MODIFICATION OF AIR POLLUTION CONTROL LANDFILL GAS FLARE NO.1 (P/O

19704) TO RENEW EXPIRING 7.72 TONS NO<sub>x</sub>/YEAR OF ERCS FOR THREE

MORE YEARS.

### **AUTHORITY TO CONSTRUCT CONDITIONS**

#### START-UP REQUIREMENTS

- S1. UPON INSTALLATION OF THE EQUIPMENT AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD) AT (916) 874-4800 TO ARRANGE FOR A START-UP INSPECTION.
- S2. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
  - A. THE SMAQMD HAS BEEN NOTIFIED TO CONDUCT A START-UP INSPECTION.
  - B. THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT.
  - C. THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THIS AUTHORITY TO CONSTRUCT.
- S3. THE OWNER OR OPERATOR OF A THE STATIONARY SOURCE SHALL SUBMIT TO THE AIR POLLUTION CONTROL OFFICER A COMPLETE TITLE V PERMIT APPLICATION FOR MINOR TITLE V PERMIT MODIFICATION PRIOR TO COMMENCING OPERATION ASSOCIATED WITH THE MINOR TITLE V PERMIT MODIFICATION.

#### **GENERAL**

- 1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED AND OPERATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AT ALL TIMES.
- THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
  - TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
  - AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND В. CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
  - TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND C.
  - TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.

MANAGEMENT DISTRICT

## **AUTHORITY TO CONSTRUCT**

A/C NO.: 23110

- 3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
- 4. THE EQUIPMENT SHALL NOT DISCHARGE SUCH QUANTITIES OF AIR CONTAMINANTS OR OTHER MATERIALS WHICH CAUSE INJURY, DETRIMENT, NUISANCE OR ANNOYANCE TO ANY CONSIDERABLE NUMBER OF PERSONS OR TO THE PUBLIC, OR WHICH ENDANGER THE COMFORT, REPOSE, HEALTH, OR SAFETY OF ANY SUCH PERSONS OR THE PUBLIC, OR WHICH CAUSE, OR HAVE A NATURAL TENDENCY TO CAUSE, INJURY OR DAMAGE TO BUSINESS OR PROPERTY.
- 5. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

#### **EMISSION LIMITATIONS**

- 6. LANDFILL GAS FLARE NO. 1 SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
- 7. EMISSIONS FROM THE LANDFILL GAS FLARE NO. 1 SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	MAXIMUM ALLOWABLE EMISSIONS
ROC (A)	A. 2% OF INLET NMOC (EQUIVALENT TO A 98% NMOC DESTRUCTION EFFICIENCY), OR B. 20 PPMVD AT 3% O2 MEASURED AS HEXANE
NO <sub>X</sub> (B)	0.06 LB/MMBTU (HIGH HEATING VALUE)
SO <sub>X</sub> (B)	42.4 LB/MMCF OF LANDFILL GAS FUEL
PM10 (B)	7.35 LB/MMCF OF LANDFILL GAS FUEL
CO (B)	0.20 LB/MMBTU (HIGH HEATING VALUE)

- (A) U.S. EPA NEW SOURCE PERFORMANCE STANDARD (NSPS) REQUIREMENT (40 CFR 60 SUBPART WWW) AND U.S. EPA NATIONAL EMISSION STANDARD FOR HAZARDOUS POLLUTANTS (NESHAP) REQUIREMENT (40 CFR 63 SUBPART AAAA).
- (B) SMAQMD BACT DETERMINATION.
- 8. EMISSIONS FROM THE LANDFILL GAS FLARE NO. 1 SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	EMISSION FACTOR (A) LB/MMFT <sup>3</sup> OF LFG	MAXIMUM ALLOWABLE EMISSIONS (B)						
		DAILY LB/DAY	QUARTER 1 (90 DAYS) LB/QUARTER	QUARTER 2 (91 DAYS) LB/QUARTER	QUARTERS 3 & 4 (92 DAYS) LB/QUARTER	YEARLY LB/YEAR		
ROC	35.2	253.4	22,810	23,063	23,294	92,460		
NO <sub>X</sub>	30.0	216.0	19,440	19,656	19,872	78,840		
SO <sub>2</sub>	42.4	305.3	27,475	27,780	28,108	111,471		
PM10	7.35	52.9	4,763	4,816	4,869	19,317		